

## C l a i m s

What is claimed is:

1. A method for accelerating a set-up procedure for wireless connections between at least two devices, which set-up procedure requires a first device to receive an inquiry message initiating said procedure from a second device twice with a back-off time in between before responding to said second device, said method comprising for said first device:
  - scanning for inquiry messages;
  - measuring a value of a parameter associated to a detected inquiry message indicative of the received power level of said detected inquiry message;
  - determining at least a maximum number as a function of said measured value;
  - generating a random number within a number space limited by said determined maximum number; and
  - scanning again for said detected inquiry message after a back-off time, the length of which back-off time is related to said generated random number.
2. The method of claim 1, wherein determining at least a maximum number as a function of said measured value comprises determining said number space defined by a maximum number and a minimum number as a function of said measured value.
3. The method of claim 1, wherein said at least maximum number is determined for said detected inquiry

message as a function of a received signal strength indicator (RSSI), which RSSI is measured as value of a parameter indicative of said received power level of said detected inquiry message.

4. The method of claim 3, wherein said maximum number is set the higher, the lower said measured RSSI of a detected inquiry message is.
5. The method of claim 3, wherein the same maximum number is assigned to each RSSI belonging to a group defined by a predetermined range of RSSI values.
6. The method of claim 3, wherein determining at least said maximum number for a detected inquiry message as a function of a received signal strength indicator (RSSI) comprises determining said number space defined by a maximum number and a minimum number as a function of said RSSI, and wherein said number space is set the higher, the lower said measured RSSI of a detected inquiry message is.
7. The method of claim 3, wherein determining at least said maximum number for a detected inquiry message as a function of a received signal strength indicator (RSSI) comprises determining said number space defined by a maximum number and a minimum number as a function of said RSSI, and wherein the same number space is assigned to each RSSI belonging to a group defined by a predetermined range of RSSI values.
8. The method of claim 1, wherein said detected inquiry message comprises an indication of a transmission

power level employed by said second device for transmitting said detected inquiry message, and wherein said at least maximum number is determined as a function of the pathloss of said detected inquiry message, which pathloss is calculated from said transmission power level and said measured value of a parameter indicative of said received power level of said detected inquiry message.

9. The method of claim 8, wherein said maximum number is set the higher, the higher said pathloss is.
10. The method of claim 8, wherein the same maximum number is assigned to each pathloss belonging to a group defined by a predetermined range of values for said pathloss.
11. The method of claim 8, wherein determining at least said maximum number as a function of said pathloss of said detected inquiry message comprises determining said number space defined by a maximum number and a minimum number as a function of said pathloss, and wherein said number space is set the higher, the higher said measured pathloss of a detected inquiry message is.
12. The method of claim 8, wherein determining at least said maximum number as a function of said pathloss of said detected inquiry message comprises determining said number space defined by a maximum number and a minimum number as a function of said pathloss, and wherein the same number space is assigned to each

pathloss belonging to a group defined by a predetermined range of values for said pathloss.

13. The method of claim 1, wherein to a user of said second device sending out inquiry messages, a list of first devices responding to said inquiry messages is presented, which list includes an indication of the order in which said first devices responded to said inquiry message by said first device.
14. A device suited for establishing a wireless connection to at least one other device comprising:
  - scanning means for scanning for inquiry messages transmitted by other devices via an air interface;
  - measuring means for measuring a value of a parameter associated to a detected inquiry message indicative of the received power level of said detected inquiry message; and
  - processing means for determining at least a maximum number as a function of said measured value, for generating a random number within a number space limited by said determined maximum number, and for determining a back-off time of which the length corresponds to said generated random number, wherein said scanning means are only allowed to scan again for said detected inquiry message after said back-off time.
15. The device of claim 14, wherein determining at least a maximum number as a function of said measured value by said processing means comprises determining said number space defined by a maximum number and a minimum number as a function of said measured value.

16. The device of claim 14, wherein said device is a Bluetooth<sup>TM</sup> device.
17. A communications system comprising at least a first device with means for transmitting inquiry messages via an air interface for establishing a wireless connection with another device, and at least a second device with:
- scanning means for scanning for inquiry messages transmitted by other devices via an air interface;
  - measuring means for measuring a value of a parameter associated to a detected inquiry message indicative of the received power level of said detected inquiry message; and
  - processing means for determining at least a maximum number as a function of said measured value, for generating a random number within a number space limited by said determined maximum number, and for determining a back-off time of which the length corresponds to said generated random number, wherein said scanning means are only allowed to scan again for said detected inquiry message after said back-off time.
18. The communications system of claim 17, wherein determining at least a maximum number as a function of said measured value by said processing means of said at least second device comprises determining said number space defined by a maximum number and a minimum number as a function of said measured value.

19. The communications system of claim 17, wherein the processing means of devices of said communications system without capabilities for measuring received power levels employ a fixed maximum number limiting a number space within which a random number is generated in order to determine a corresponding back-off time.
20. The communications system of claim 17, wherein said communications system is a Bluetooth™ communications system.